

# WAVE SOLDER APPLICATION FOR BALL GRID ARRAY MODULES

## Abstract of the Disclosure

5 A method for fabricating a printed circuit board assembly comprising a via, wherein the  
method inhibits the flow of molten solder into the via during a wave soldering step, thereby  
preventing heat transfer that might otherwise degrade a solder joint at a top pad that is thermally  
coupled to the via. The method comprises the steps of: (1) fastening a bottom component to the  
bottom surface of the circuit board by a screening and reflow of solder paste that also generates a  
solder plug in the via; (2) fastening top components to the top surface of the circuit board by a  
10 screening and reflow of solder paste, wherein the top components comprise ball grid arrays and  
other surface mount devices that are to be affixed to pads which are connected to vias; and (3)  
wave soldering the bottom surface to affix additional components onto the circuit board, such as  
pin-in-hole components placed on the top surface. The solder plug formed in the via during the  
first step prevents molten solder from flowing into the via during the subsequent wave soldering  
15 step, thereby inhibiting heat transfer from the molten solder to the solder joint at the top pad.